

# EXHIBIT 1

## **Analysis of the Proximity of Jails and Hospitals to County Boards of Elections in Ohio**

Mark Salling, PhD, GISP

Senior Fellow

Maxine Goodman Levin College of Urban Affairs

Cleveland State University

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This study maps the geographic distributions of county boards of elections (BOEs), hospitals, and jails in the State of Ohio and calculates and compares the distances from each county's jails and hospitals to the county's BOE. This analysis is meant to address the issue of whether travel by BOE staff to jails in order to deliver and retrieve election ballots of voting-eligible inmates is more or less burdensome than travel to hospitals in the county to deliver and retrieve such ballots from voting-eligible hospital in-patients (or those whose minor children are hospitalized) during the weekend prior to an election through Election Day.

### **Data and Methods**

Geographic Information Systems (GIS) software is used to geocode and map data in Excel files containing the address of 88 BOEs, 237 hospitals, and 160 jails in the state.<sup>1</sup> The U.S. Census Bureau's 2018 TIGER data were used for the street reference file for geocoding addresses (i.e., locating them on the reference or base map). GIS analysis tools, together with SAS programming, enabled the author to calculate the distances between each jail and hospital to its county's BOE. An average distance between the BOEs and jails and hospitals in the county was then calculated.

For the purpose of this analysis, the term "jails" includes twelve-hour holding jails, full-service jails, and minimum security jails. Since temporary holding facilities (THFs) hold persons for less than six hours, THFs are excluded from the analysis of jail distances. The term "hospitals" refers to hospital facilities registered with the Ohio Department of Health.

### **Results**

Map 1 shows the geographic distributions of BOEs, hospitals, and jails. Table 1 provides the aggregate and average distances between jails and hospitals to the BOE in their respective counties. The average distance between a BOE and the hospitals in its county is 5.32 miles. The average distance between a BOE and jails in its county is 5.27 miles, less than the average distance to hospitals. The average distance to this set of jails is not statistically different than to hospitals at the 90 percent confidence level.<sup>2</sup>

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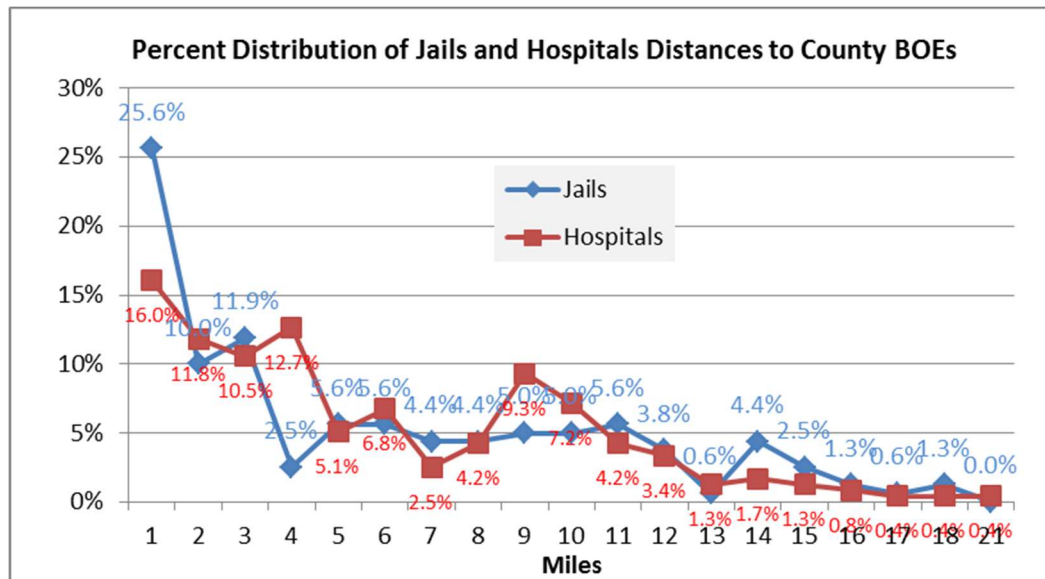
<sup>1</sup> The analysis was requested by the Campaign Legal Center (CLC) and data on addresses of the three types of facilities used in the analysis were gathered from publicly available State of Ohio resources supplied by that organization.

<sup>2</sup> The null hypothesis, that there is no difference, cannot be rejected with 90 percent confidence ( $t = -0.12721$ ,  $p = .449421$ ).

**Table 1: Aggregate and Average Distances between Jails and Hospitals to the Respective County's BOE (in miles)**

	Hospitals	Jails
Number	237	160
Aggregate distance from county BOE	1,262	843
Average distance from county BOE	5.32	5.27

Figure 1 shows the percent distribution of the number of jails and hospitals at one mile increments in distance to county BOEs.

**Figure 1: Percent Distribution of Jails and Hospitals Distances to County BOEs**

While 16 percent of hospitals are within a mile of the county BOE, 25.6 percent of jails are within that distance (see Figure 1). Thirty-five (35.6) percent of jails and 27.8 percent of hospitals are within two miles of the county BOE. Forty-seven (47.5) percent of the jails and 38.4 percent of hospitals are within three miles from the county BOE.

It should also be noted that there are significantly fewer jails than hospitals to which BOE staff might have to travel to at various distances from the BOE office. See Table 1. Indeed, 10 counties have no jail for the BOE to serve. The aggregate distance from BOEs to hospitals is 1,262 miles; the aggregate distance to jails is 843 miles.

## Conclusion

Distances from BOEs to jails in the same county in Ohio are essentially the same as distances to hospitals in those counties. Indeed, assuming that all hospitals and jails in this study have equal chances of having eligible voters who have not voted, the relative burden of travel to these facilities is likely less for jails since there are many fewer of them and the aggregate distance to be covered is less.

**Map 1: Geographic Distribution of BOEs, Hospitals, and Jails**